DEUCE Programme No. 358 (ZP39T)

Read and Enter Programme.

SUMMARY.

This 4 card programme for use with the DEUCE with 64 column read and Automatic Instruction Modifier, can be used to provide any or all of the following facilities:

1. Initial Card.
2. Set Scope.
3. Stop Detector (Essential for 64 column read).
4. Clear Drum.
5. Set P31 Clock Track (Track $15/15_{16}$).
6. Fill the drum from double triads which only need the track number in the Y Row as a filling instruction.
7. Fill the delay lines from double triads which only need the D.L. number in the Y Row as a filling instruction.

This programme was written and tested at N.R.L. Blackheath.

Restrictions ctd. from Sheet No. 2.

c) For an 80 column reader, the two tracks on α and β fields must both be for tracks in the same head block position. If an odd number of tracks is required in any block position, the α field should be left blank on one triad. A programme which has already been punched with two tracks from different heads on the same triad, can be made to work in these circumstances by punching a P_{32} on the Y row of the triad.

f) The entry to the programme must be punched in the β field

g) D.L 8 must never appear on a triad having no parameters in the α field. If D.L 8 is the only D.L. required, fill D.L 7. with zeros from the α field to overwrite D.L 7 of ZP39T.

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OPERATING INSTRUCTIONS.

Card 0 - Initial card.

If machine is on "normal" this performs the normal initial card oporations only.

If machine is on "stop" read is cleared and machine stops on 12-24X. The display is synchronised by setting the instructions in D.L.8 to start in m.c.0 or 1 Switch machine to "normal" to carry on the programme.

Cards 1-3

This programme reads double triads to the destination defined by the Y row parameter in each field. The parameter takes the following forms:-

(a) $n \times P_1$: store in track n ($0 \leq n \leq 255$)

(b) $n \times P_1 + P_{32}$: store in track n and set up P_{31} clock track in $15/15_{16}$.

(c) $d \times P_{10}$: store in D.L. d.

(d) $N \times P_2 + d \times P_{10} + T \times P_{26}$: store in D.L.d and enter programme at N_T.

If D.L.11 is non-zero at entry to this programme, the drum-clearing action is by-passed.
The X,0 & 1 rows of the first card of each triad are ignored

Restrictions.

(a) A triad intended for the magnetic store must not be punched on the same cards as a triad intended for the mercury store.

(b) If a triad is punched in one field only, it must be the β field.

(c) If a track is required to be filled with zeros from cards, it must be filled from the β field.

(d) If D.L.7 and 8 are to be filled, they must be the last filled, with D.L.8 in the β field.

(See also sheet 1)

Uses. D.L. 7, 8 (non-zero at exit unless overwritten)

Q.S. $17_{0,1}$ (non-zero at exit)

D.S. 21. (zero at exit)

T.S. 13,14,15 (zero at exit)

Entry. 8_{24}

Time. The programme being read is entered within 3 m.s. after the last single shot.

	D.L. Track Card Nos.							
	mc	NTS	S	D	C	W	T		
		8	0	0		26	26	X	Y
		8	0	8	1	0	7	X	X
		8	0	8		30	29	X	0
B_7		8	30	8		23	23		1
B_6	0	8	30	21	2	0	31		2
B_5	1	8	30	21	2	0	24		3
B_4	2	8	29	22		0	21		4
B_3	3	8	21	28		0	0		5
B_2	4	8	4	24		0	0		6
B_1	5	8	16	16		0	0		7
B_0	6	8	30	21	2	0	0		8
B_1	7	8	12	24		0	29		9
	8								Y
	9								X
	10								0
	11								1
	12								2
	13								3
	14								4
	15								5
	16								6
	17								7
	18								8
	19								9
	20								Y
	21								X
	22								0
	23								1
	24								2
	25								3
	26								4
	27								5
	28								6
	29								7
	30								8
	31								9

Q_1 12 · 24

B_0 30 · 21 (4)

B_2 4 · 24

B_4 29 · 22_2

B_1 16 · 16

B_3 21_3 · 28

C

B_3 30 · 21 (4)

B_{21}

P

B_0 30 · 21 (4)

B_1 30 · B_0

B_2

FLOW DIAGRAM AND CODING FOR DEUCE PROGRAMME
NO. 358 (ZP39T). 6H col. initial card,
stop detector and synch. display.

Date

File Ref. NS t 1204

Sheet Ref. S6|11049

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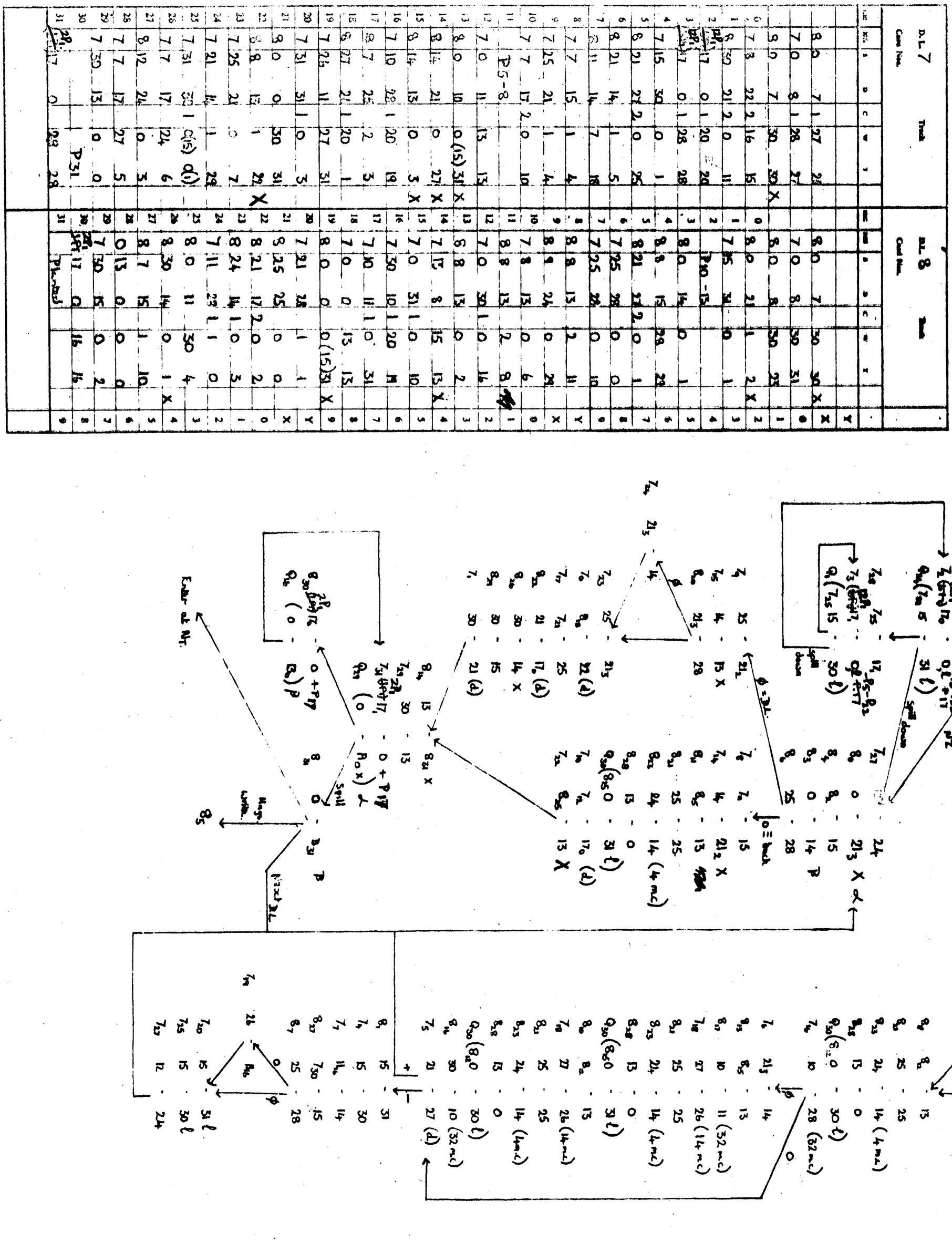
N.110



NELSON RESEARCH LABORATORIES, THE ENGLISH ELECTRIC CO. LTD., STAFFORD, ENGLAND.	FLOW DIAGRAM AND CODING FOR DEUCE PROGRAMME No. 358 (ZP39T). Store and Enter Programme (64 col. Auto - Joe machine only)	Date File Ref. NST 1204 Sheet Ref. 56/11050

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